6. MASTER MAKING AREA

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[Adjustment Procedures]

1. Sensitivity of Master Detection Sensor

– Procedure –

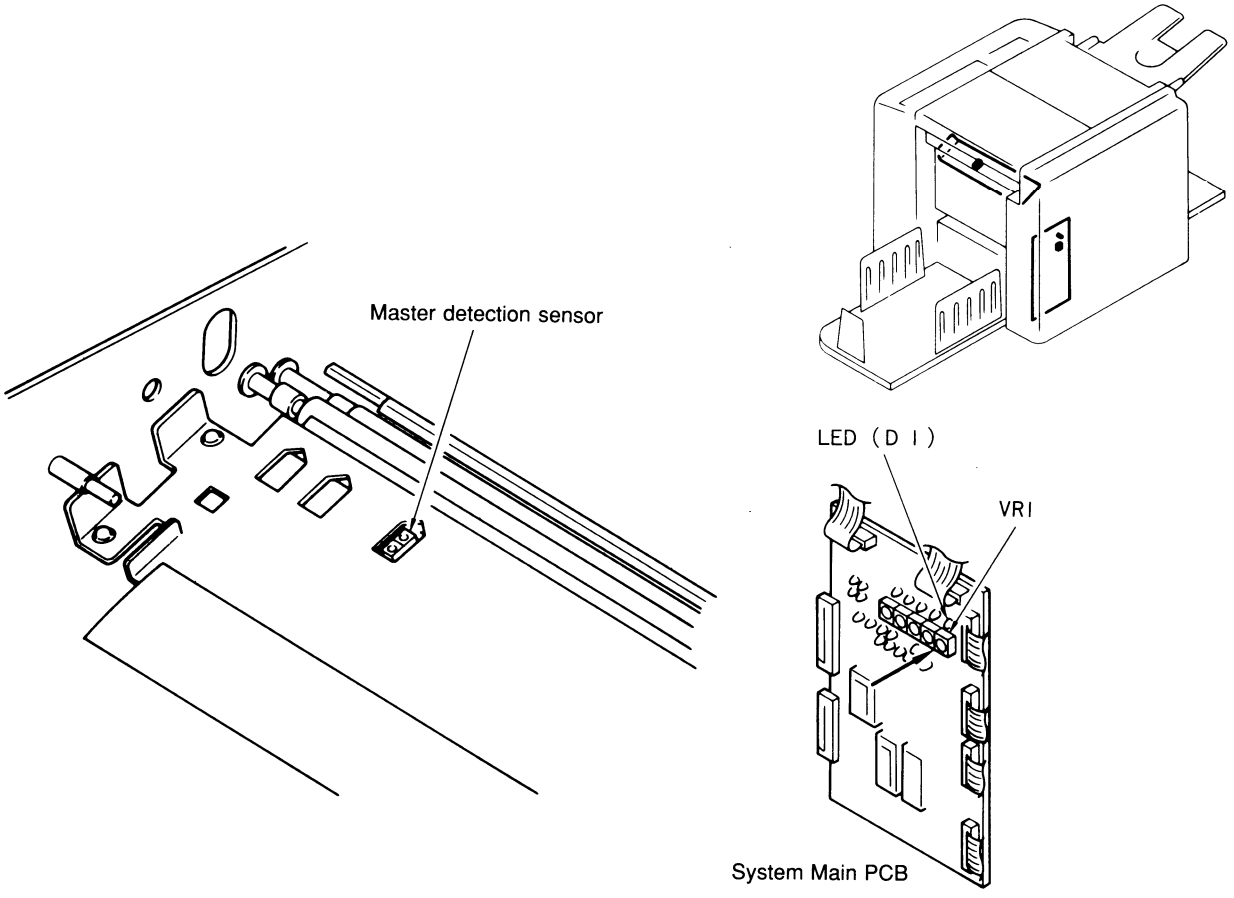
1) Slide the Image scanning section towards the paper feed side, and unlock and open the Master loading unit.
2) Load the master correctly and close the Master loading unit.
3) Remove the Back cover and turn **VR1** on the **System Main PCB** counterclockwise all the way.
4) Turn **VR1** clockwise gradually while watching **LED (D1)** on the **System Main PCB**. After the **LED (D1)** has lit up, turn **VR1** 3 to 4 more steps clockwise.

– Check –

- Reload the master material several times and check that the **LED (D1)** on the **System Main PCB** lights when the master is present and that it does not light when the master is removed.

– Results of Misadjustment –

1) If the sensitivity is too low; ➡
   the sensor cannot detect the master even when present.
   This will cause the message **"SET LEAD EDGE OF MASTER UNDER GREEN FILM"** to be displayed on the panel, preventing the operation.
2) If the sensitivity is too high; ➡
   there will be no trouble in operation with the master present, but it is judged that the master is present even when not, causing the Loading pulse motor to rotate to feed the master.
   As a result, the Master positioning sensor can't detect the master, causing the message **"MASTER MIS-FEED/RESET MASTER"** to be displayed on the panel.



2. Sensitivity of Master End Sensor

– Procedure –

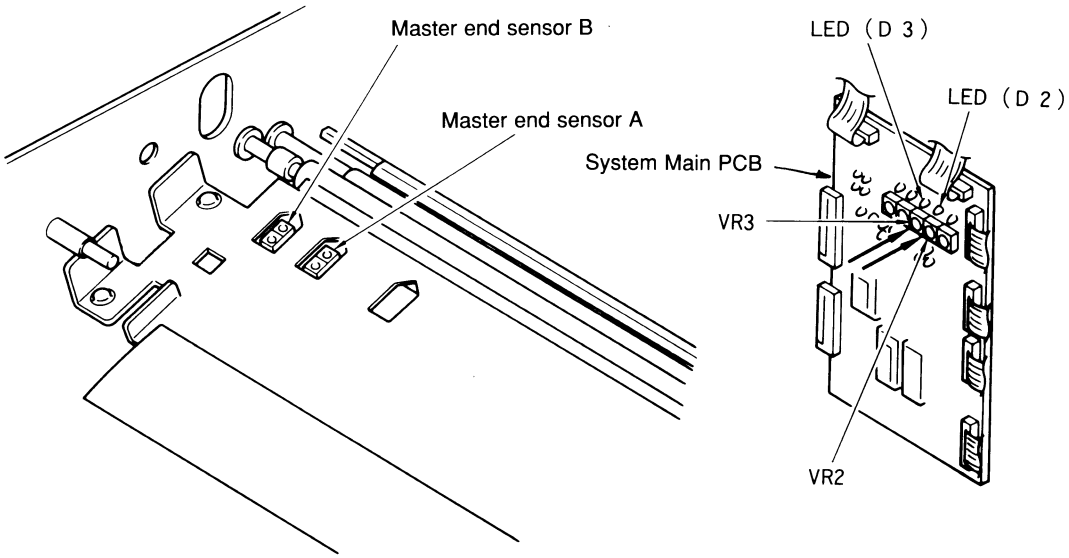
1) Slide the Image scanning section towards the paper feed side, and unlock and open the Master loading unit.
2) Reset the master material and close the Master loading unit.
3) Remove the Back cover and turn **VR 2** and **3** on the **System Main PCB** counterclockwise all the way.
4) Turn **VR2** clockwise gradually while watching the **LED (D2)** on the **System Main PCB**.
   After the **LED (D2)** goes off, Turn **VR2** 3 to 4 more steps clockwise.
5) Turn **VR3** clockwise gradually while watching the **LED (D3)** on the **System Main PCB**.
   After the **LED (D3)** goes off, turn **VR3** 3 to 4 more steps clockwise.

– Check –

- Check that the LEDs **(D2 and D3)** on the **System Main PCB** are on when a black tape is placed on the Master end sensor and that they are off when the master is in place.

– Results of Misadjustment –

1) If the sensitivity is too high; ➡
   the sensor cannot detect the master end mark (the black tape), causing a new master to be attached to the Drum without the full length.
   As a result, the first print paper may not be separated from the Drum and wind around it, or the Pressure roller may be smudged with ink due to the absence of master material on the print area of the Drum.
   Besides, The Write roller may be damaged because the master runs out during master making.
2) If the sensitivity is too low; ➡
   the message **"REPLACE MASTER ROLL"** will be displayed on the panel even when the master roll is not used up.



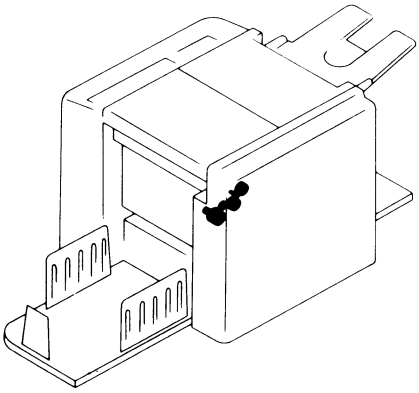
3. Tension of Write Pulse Motor Belt

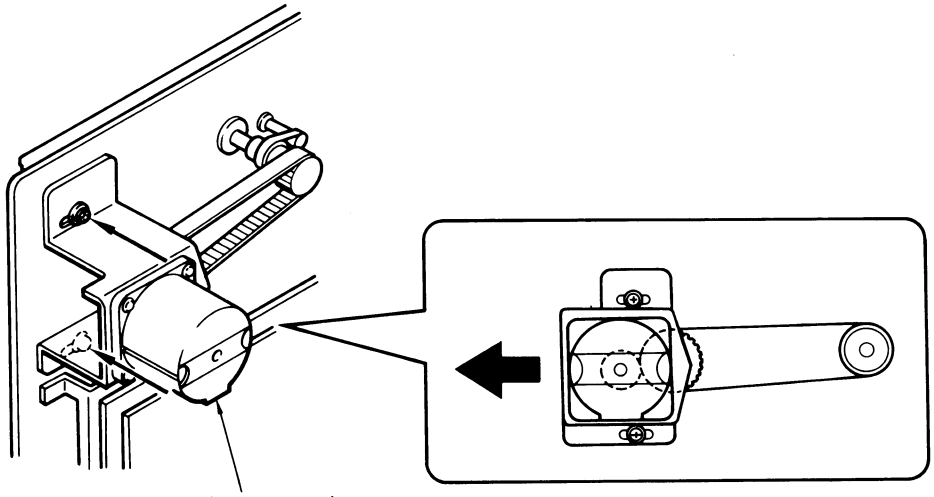
– Procedure –

1) Remove the Back cover and loosen the two mounting screws of the Write pulse motor unit.
2) Pull the Write pulse motor all the way to the left and tighten the screws.

– Results of Misadjustment –

1) If the belt tension is not tight enough; ➡
   the belt could skip on gears during master making, causing the Write roller to stop.
   As a result, the image on the master will be reduced in length (vertically).
   This could also cause damage to the belt.
2) If the belt tension is too tight; ➡
   too much load will be on the Write pulse motor and lock the motor, causing the Write roller to stop rotating, and the image on the master will be reduced in length (vertically).
   This could also cause damage to the pulley or the pulse motor.





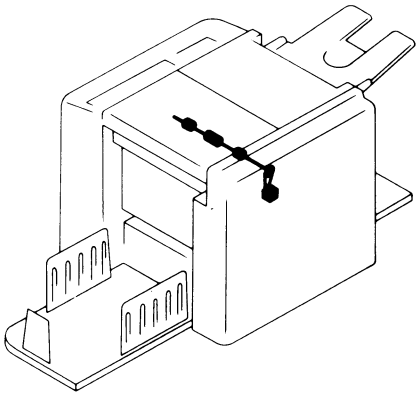
4. Tension of Loading Pulse Motor Belt

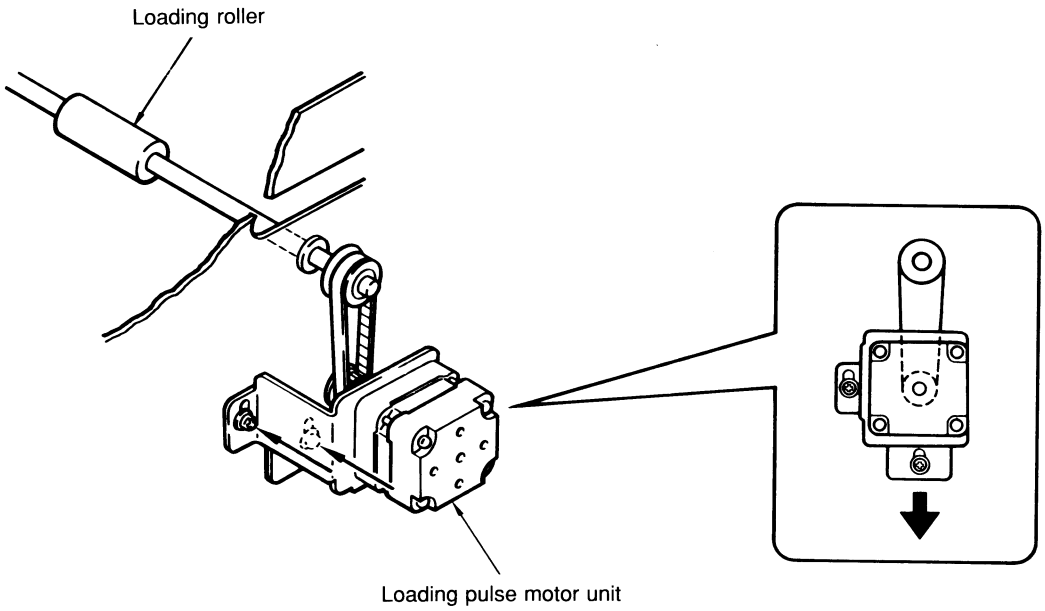
– Procedure –

1) Remove the Back cover and loosen the two mounting screws of the Loading pulse motor unit.
2) Let the Loading pulse motor hang by its own weight on the belt and tighten the screws.

– Results of Misadjustment –

1) If the belt tension is not tight enough; ➡
   the belt could skip on gears during master transporting, causing the Loading pulse motor to stop, and the maste cannot be transported properly, which results in mis-loading.
   This could also cause damage to the belt.
2) If the belt tension is too tight; ➡
   too much load will be on the Loading pulse motor and lock the motor, and the master cannot be transported properly, which results in mis-loading.
   This could also cause damage to the pulley and Loading pulse motor.





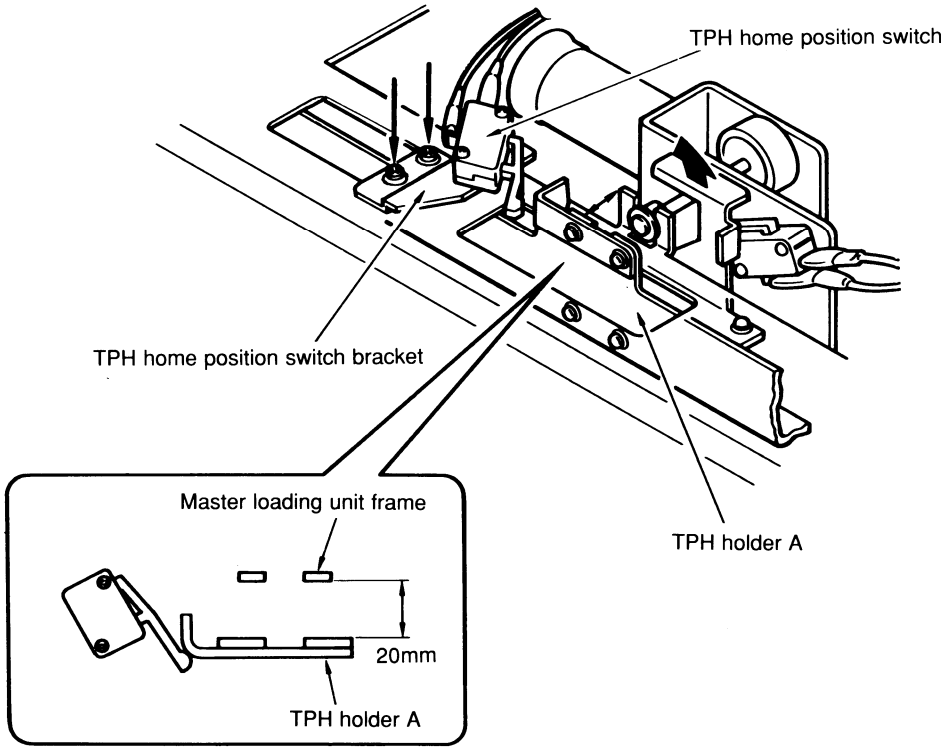
5. Position of TPH Home Position Switch

– Check & Adjustment –

1) Slide the Image scanning section towards the paper feed side and remove the Master loading unit cover.
2) Manually pull the TPH holder A towards the master roll.
   Then check that the distance from the Master loading unit frame to the TPH holder A is **20 mm** when the actuator of the TPH home position switch is pressed.
3) If the distance is not 20 mm, loosen the mounting screws on the bracket of the TPH home position switch and move the switch and bracket to the correct position and tighten the screws.

– Results of Misadjustment –

1) If the actuator of the TPH home position switch is not actuated (the distance is **much more than 20 mm**); ➡
   the Thermal pressure motor can not stop. This will cause dmage to the motor and/or gears.
2) If the actuator of the TPH home position switch is contacted too early (the distance is **much less than 20 mm**); ➡
   it will stop the Thermal print head from rising away from the Write roller, causing errors in master loading on the Drum or in confidential operation.



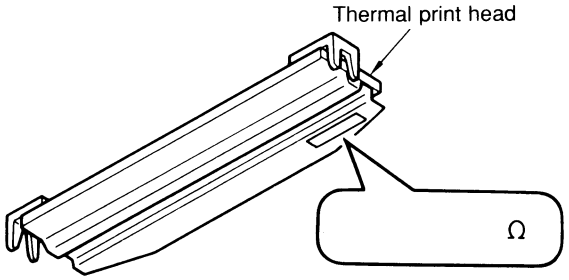
6. Thermal Power of Thermal Print Head

– Check & Adjustment –

1) Open the ADF cover and remove the Digitizer unit.
2) Remove the Front right cover.
3) Slide the Image scanning section towards the paper feed side, and unlock and open the Master loading unit.
   Then read the resistance value (Ω) marked on the Thermal print head.
4) Measure the voltage between the **TP GND** and **TP +18V** on the **Power supply PCB** using a voltmeter, and then check the table below.
   If the value does not match, adjust **VR +18ADJ**.
5) Check that the settings of **SW5** and **SW8** on the **Image processing PCB A** are correct referring to the correlation table below.
6) If they are not set correctly, reset **SW5** for **TP1** and **SW8** for **TP2**.

– Results of Misadjustment –

1) If the heating time for **TP2** is too short (not enough heat); ➡
   thin horizontal lines can not be reproduced clearly.
2) If the heating time for **TP1** is too long (too much heat); ➡
   the solid print image will be deformed and the Thermal print head may be damaged.



Voltage VTPH (V)	Resistance value $\overline{R}$ (Ω)	Switch setting SW5 / SW8
17.0	1520 – 1558	A / 9
	1559 – 1592	B / A
	1593 – 1601	C / B
17.0	1602 – 1643	A / 9
	1644 – 1686	B / B
17.5	1687 – 1724	7 / 6
	1725 – 1760	8 / 7
	1761 – 1775	9 / 9
17.5	1776 – 1814	7 / 7
	1815 – 1851	8 / 8
	1852 – 1870	9 / 9
18.0	1871 – 1901	4 / 4
	1902 – 1939	5 / 5
	1940 – 1969	6 / 6
18.0	1970 – 1997	4 / 4
	1998 – 2035	5 / 6
	2036 – 2074	6 / 7
18.0	2075 – 2093	4 / 5
	2094 – 2131	5 / 6
	2132 – 2169	6 / 7
	2170 – 2184	7 / 9
18.0	2185 – 2208	5 / 7
	2209 – 2265	6 / 8
	2266 – 2300	7 / 9